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Lung metastases from a primary hepatocellular carcinoma

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Case report

A 58-year-old male insurance agent complained of a six-month history of weight loss of 12 kg, together with dyspnoea on exercise and a productive cough for one month. He gave no history of haemoptyses, nor of abdominal or chest pain. He smoked 40 cigarettes per day but had only a moderate alcohol intake. On examination he appeared to be a well-built man, but he had clubbing of the fingers, bilaterally reduced chest expansion and fine inspiratory crackles at both lung bases. The liver was grossly enlarged and irregular. The tip of the spleen was just palpable. No other abnormalities were found on examination.

Investigations showed a haemoglobin of 13·4 g/dl, a normal white cell and differential count, and an ESR of 87 mm/hr. Liver function tests detected an alkaline phosphatase level of 421 IU/1, and a gamma glutamyl transferase level of 402 IU/l. The chest radiograph (fig 1) shows widely disseminated amorphous ill-defined circular shadows ranging in size from pinpoint to approximately 1 cm in diameter. An EMI computerised tomogram (fig 2) showed these shadows to be particularly dense in the posterior part of both lung fields, and also revealed a paravertebral mass at the level of the eighth thoracic vertebra, with associated rib erosion. The CAT scan of the liver was technically unsatisfactory.

The serum alpha fetoprotein level was 7 ng/ml (diagnostic levels >10 ng/ml) and Australia antigen screening was negative. A technetium-99m liver scan showed hepatomegaly and a mass involving the inferior border of the liver. Ultrasound showed changes suggestive of a large homogeneous solid lesion in the right lobe of the liver approximately 10 cm in diameter and this was confirmed by coeliac angiography. Liver biopsy confirmed the presence of a primary hepatocarcinoma with no associated cirrhosis. Because the presence of metastases would determine the mode of treatment a fibreoptic bronchoscopy was performed. No abnormality of the bronchial tree was seen but transbronchial biopsies from the right lower lobe showed cells closely resembling hepatocytes, confirming the presence of lung metastases from the primary hepatocarcinoma. The patient was given a course of doxorubicin which produces a clinical remission in 32% of patients with hepatocellular carcinoma.[1] However, his clinical condition slowly deteriorated over the next three months, without change in his chest radiograph, and he died at home. A necropsy was not performed.

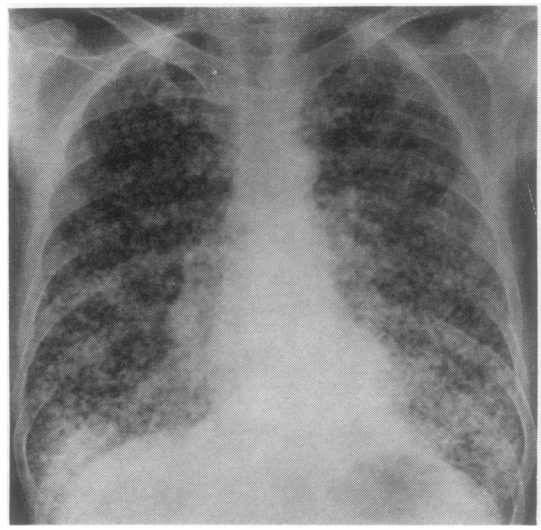

Fig 1 *Chest radiograph on admission.*

Discussion

Pulmonary metastases are common in patients with primary liver cancer. In one series[2] they were present in 19% of such cases on admission to hospital and appeared later in a further 6%. However, at necropsy 52% of patients with primary liver carcinoma had evidence of pulmonary metastases, only half of whom had radiological evidence of such metastases during life. In their series pulmonary metastases were often multiple, but unlike the case reported here the size of the metastases tended to be uniform for a particular patient, and rib metastases were very rare.

This case is unusual in that the chest radiographic appearance of widely disseminated amorphous ill-defined circular shadows varying in size is much more commonly associated with metastases from a primary tumour of the prostate gland, thyroid, breast, or stomach, or results from the pulmonary lesions of a reticulosis or from intra-alveolar spread of a bronchiolar adenocarcinoma.[3] An underlying primary

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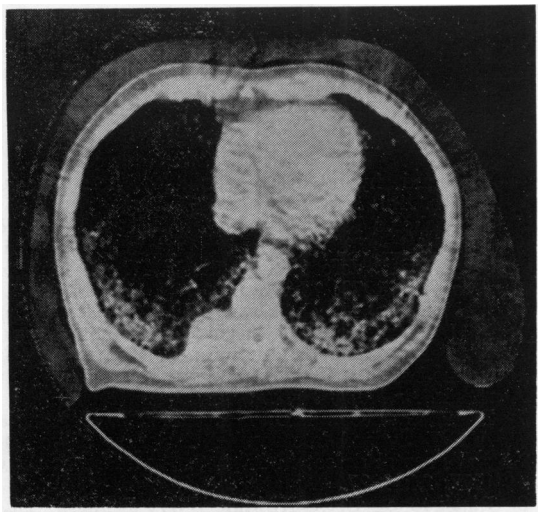

Fig 2 *Computerised axial tomographic scan at the level of the eighth thoracic vertebra, viewed inferiorly. Reproduced by kind permission of Dr Jan de Winter, Royal Sussex County Hospital.*

hepatocarcinoma should be considered in the differential diagnosis of such a chest radiograph.

I am grateful to Dr P Hugh-Jones for permission to publish details of this patient.

References

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